Plaintiffs' Exhibit 32 (Redacted)

IN THE UNITED STATES DISTRICT COURT

FOR THE EASTERN DISTRICT OF VIRGINIA

Alexandria Division

| UNITED STATES, et al., | |) | |
|------------------------|-------------|---|---------------------------|
| | Plaintiffs, |) | |
| V. | |) | No. 1:23-cv-00108-LMB-JFA |
| | |) | |
| GOOGLE LLC, | |) | |
| | |) | |
| | Defendant. |) | |

DECLARATION OF GABRIEL WEINTRAUB IN SUPPORT OF PLAINTIFFS' OPPOSITION TO GOOGLE'S MOTION FOR SUMMARY JUDGMENT

Gabriel Weintraub, PhD., being duly cautioned, declares as follows:

- 1. I am over 21 years old and am competent to testify about the matters in this Declaration based on my personal knowledge.
- 2. Attached hereto as Exhibit A is a true and correct copy of the December 22, 2023, Expert Report of Gabriel Weintraub, PhD, along with associated errata. Attached hereto as Exhibit B is a true and correct copy of the February 13, 2024, Expert Rebuttal Report of Gabriel Weintraub, PhD, along with associated errata.
- 3. I authored the attached Expert Reports identified in Item (2) above and understood at the time I signed them that they were being prepared for use in this litigation. I am prepared to testify at trial, under oath, to the matters set forth in these reports. My statements set forth in these reports, as modified by associated errata, are true and correct to the best of my knowledge.
- 4. The exhibits attached to the reports described in Item (2) are true and correct copies.

I declare under penalty of perjury under the laws of the United States of America that the foregoing statements in this Declaration are true and correct.

| Dated: 5/10/2024 | | | | | |
|-------------------------|-----------------|--|--|--|--|
| Signed: | | | | | |
| Gabriel Weintraub, PhD. | | | | | |
| City and Country: | Santiago, Chile | | | | |

IN THE UNITED STATES DISTRICT COURT FOR THE EASTERN DISTRICT OF VIRGINIA ALEXANDRIA DIVISION

United States of America, et al.,

Plaintiffs,

V

Case No. 1:23-cv-00108 HON. LEONIE H. M. BRINKEMA

Google LLC,

Defendant.

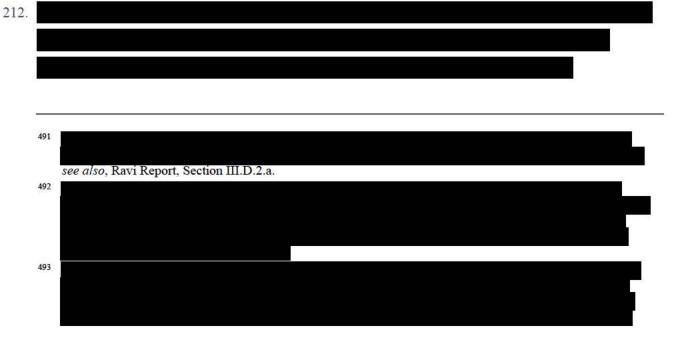
EXPERT REPORT OF

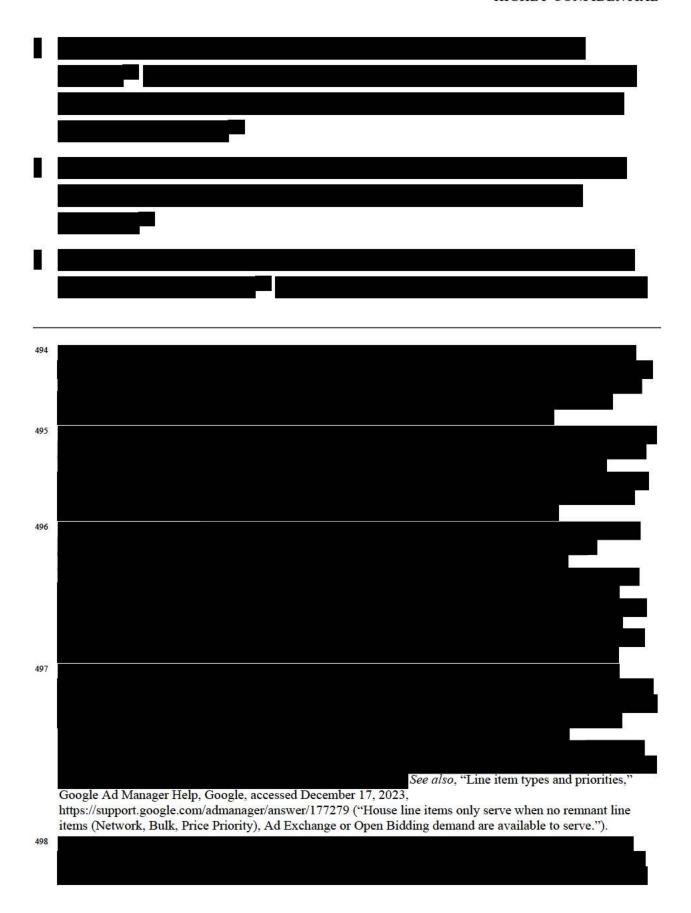
GABRIEL WEINTRAUB, PH.D.

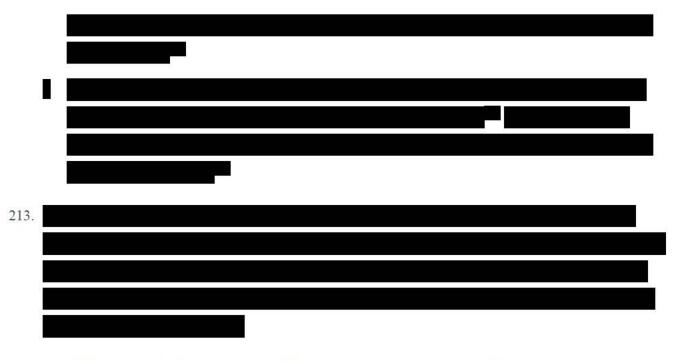
DECEMBER 22, 2023

211. Lastly, as I discuss next in Section VI.C.1, Google implemented a program called Project Poirot, which reduced DV360's bids into exchanges that " 2017. 491 As discussed above, in the dynamic region, AdX used sell side dynamic revenue sharing to charge advertisers a different amount depending on their exact bids. As a result, AdX was not a true second price auction due to sell side dynamic revenue sharing, and absent alterations to sell side dynamic revenue sharing or Project Poirot, the former may have triggered Project Poirot to shade DV360's bids into AdX. However, Google implemented sell side dynamic revenue sharing in a way that AdX could avoid triggering Project Poirot, which would have resulted in DV360 reducing its bids submitted to AdX as well. In particular, Google documents indicate that DV360 from Sell Side DRS V1, and that Google did not plan around 2016, Google to activate Sell Side DRS V2 for DV360.492 Further, Google documents indicate that tDRS's design s ⁴⁹³ Google's integration between the sell side and buy side was critical to execute these strategies. Furthermore, without knowing the details of both sell side dynamic revenue sharing and Project Poirot, Google's rivals did not have the same opportunity to work around Project Poirot in their auction design.

VI.B.2. Impact of Google's Sell Side Dynamic Revenue Sharing on Rival Exchanges' Scale

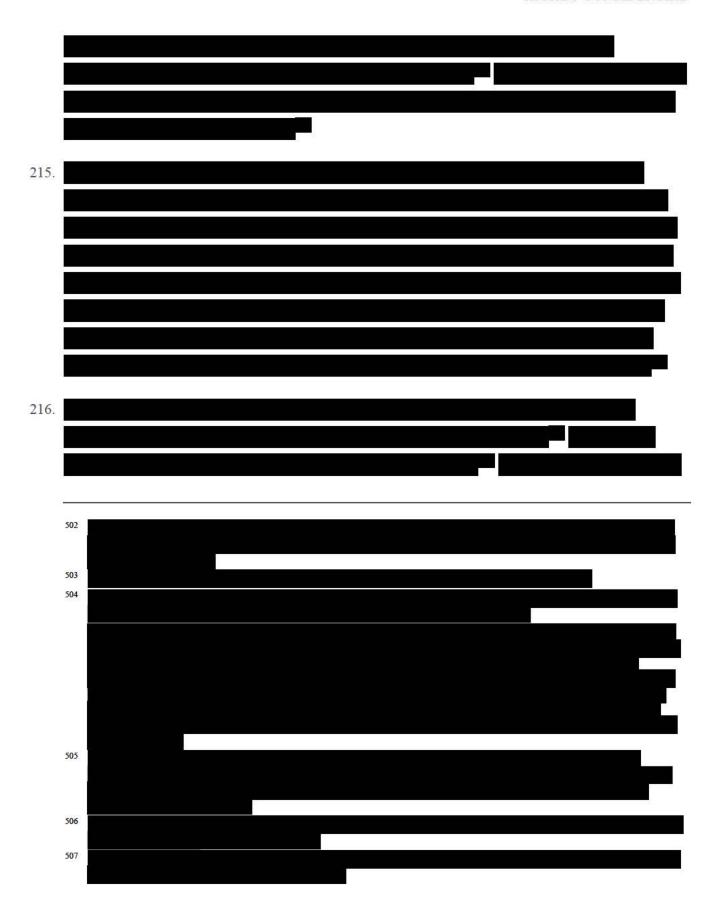




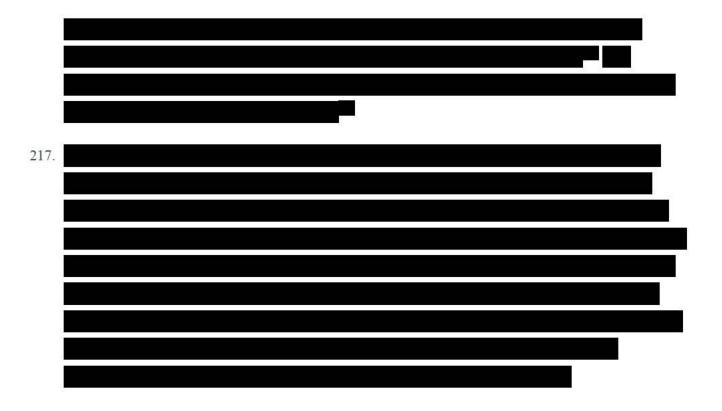


214. As I did in Sections VI.A.2 ("last look"), I use Google's experiments to estimate the potential effect of sell side dynamic revenue sharing on rival exchange scale.





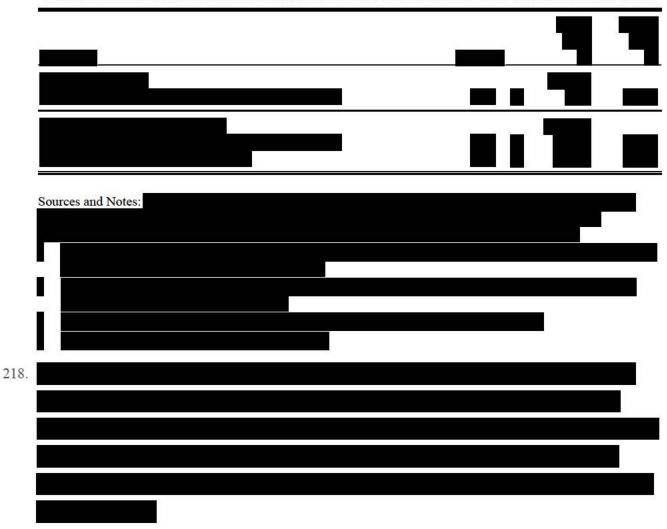
HIGHLY CONFIDENTIAL



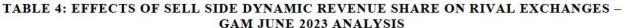


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TABLE 3: EFFECTS OF SELL SIDE DYNAMIC REVENUE SHARE ON RIVAL EXCHANGES

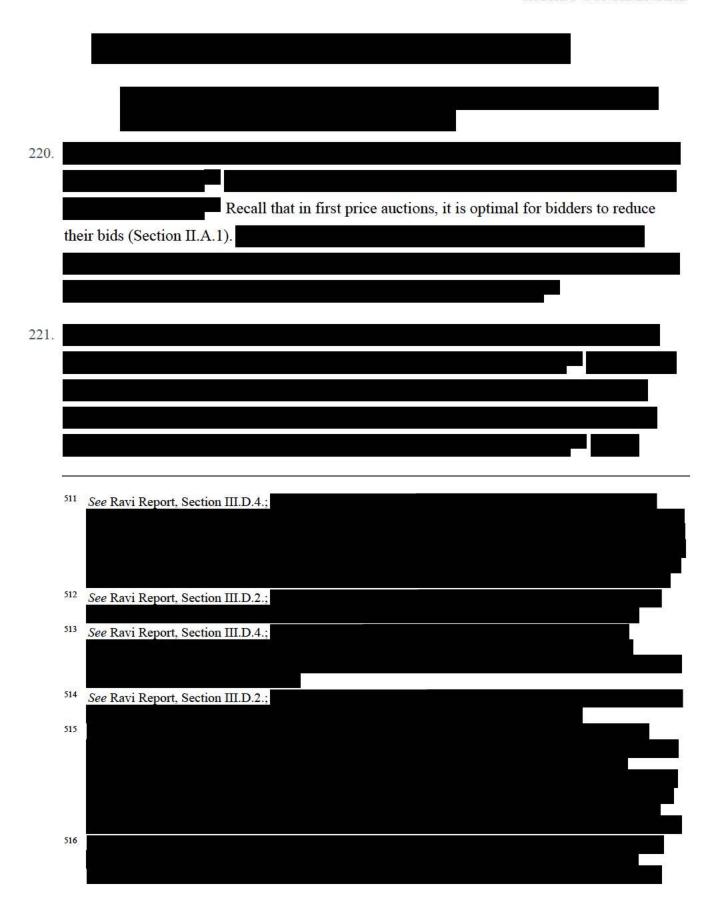


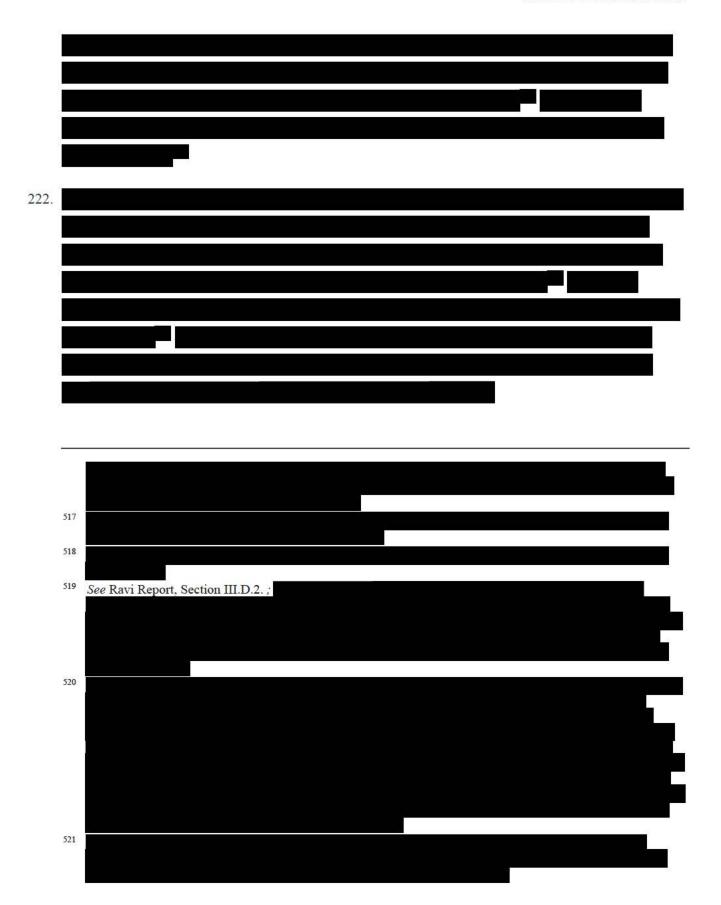
HIGHLY CONFIDENTIAL

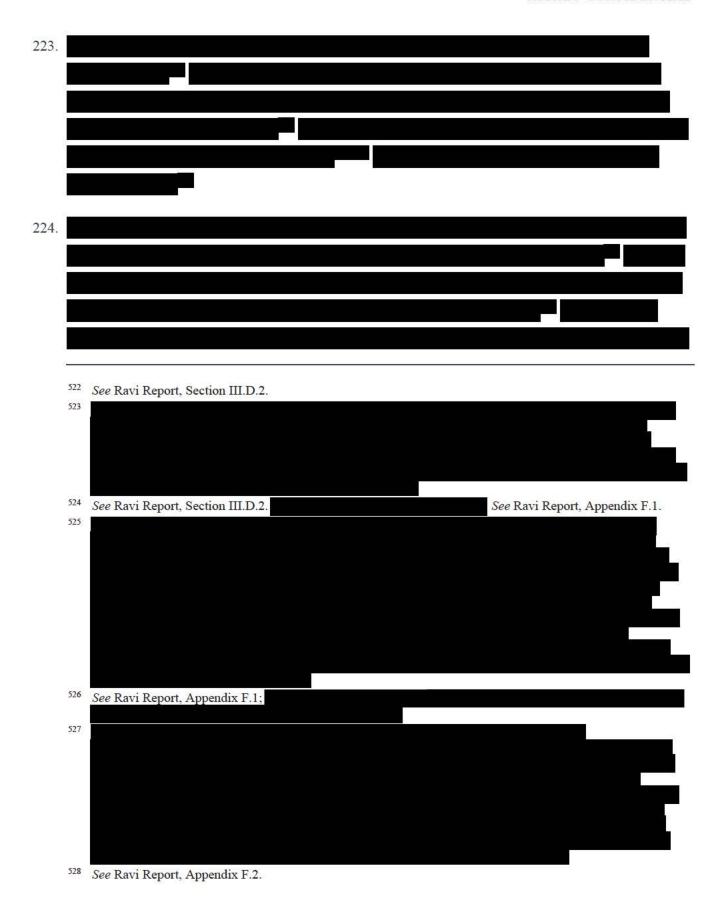


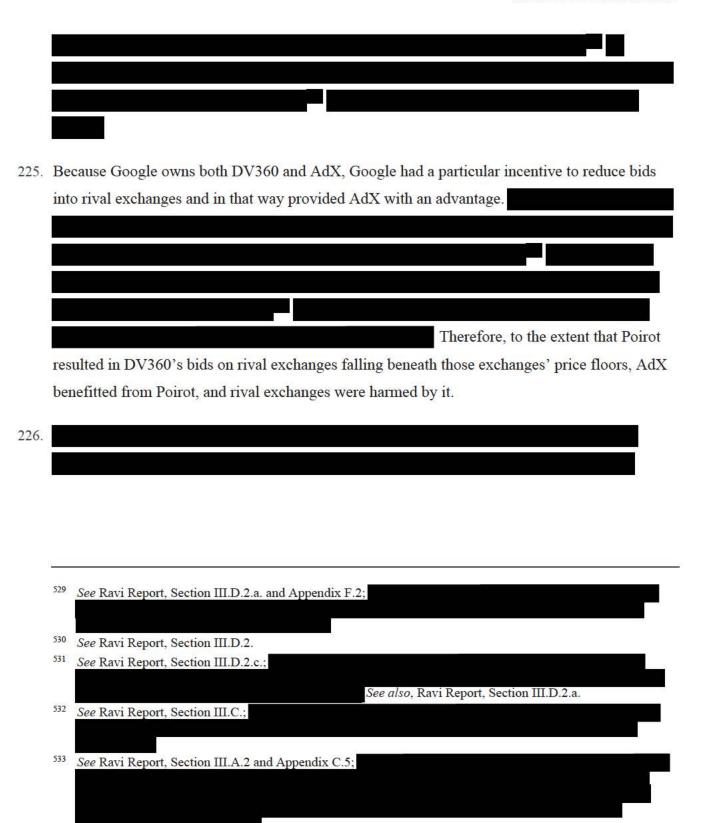


219. Google's sell side dynamic revenue sharing in conjunction with "last-look" likely harmed advertisers by making suboptimal matches, in particular advertisers bidding through rival exchanges that are less likely to win. Specifically, sell side dynamic revenue sharing would yield suboptimal matches because AdX's buyer can win despite its lower valuation than a competing exchange's buyer. In addition, AdX's buyer can win because of AdX's last look advantage working through sell side dynamic revenue sharing and not because of its valuation of impressions. There could also be distributional effects for advertisers if some buyers tend to participate in more competitive auctions and others tend to participate in more non-competitive auctions.





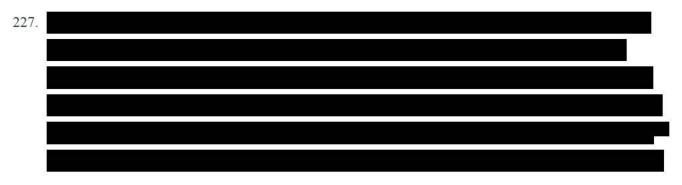


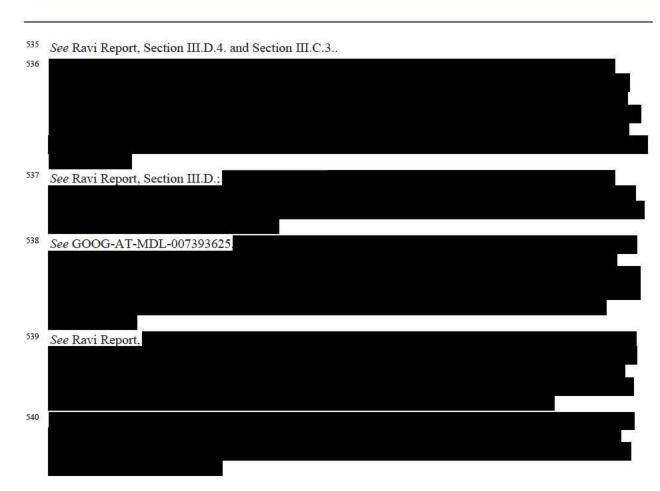


534 See Ravi Report, Section III.D.1.:



VI.C.2. Impact of Project Poirot on Rival Exchanges' Scale





Way

Gabriel Weintraub, Ph.D.

December 22, 2023

Expert Report of Gabriel Weintraub (December 22, 2023)--Errata

| Page | Paragraph | Footnote Original | Corrected | Reason |
|------|-----------|--|--|---------------|
| 7 | 16 | 6 "ad.spend" | "ad spend" | Туро |
| | | | | |
| | | | | |
| 11 | 22 | 10 "See, e.g., "Internet Advertising Revenue Report," PwC, iab, April 2023, | "See, e.g., "Internet Advertising Revenue Report," PwC, iab, April 2023, | Clarification |
| | | https://www.iab.com/wpcontent/ | https://www.iab.com/wpcontent/ | |
| | | uploads/2023/04/IAB_PwC_Internet_Advertising_Revenue_Report_2022. | p uploads/2023/04/IAB_PwC_Internet_Advertising_Revenue_Report_2022. | р |
| | | df" | df, at 15" | |
| 12 | 25 | . "The tools to run RTB auctions for the purchase and sale of online display | "The tools to run RTB auctions for the purchase and sale of online display | Туро |
| | | ads is called" | ads are called" | |
| 17 | 33 | 41 "(e.g., the average spend for each conversion should not exceed a pre- | "(e.g., the average spend for each conversion should not exceed a pre- | Clarification |
| | | specified target).")." | specified target).") (emphasis in original)." | |
| 19 | 34 | 47 "at 39 68 " | "at 39 52 " | Correction |
| 23 | 43 | 71 "using machine algorithms" | "using machine learning algorithms" | Clarification |
| 24 | 44 | 77 "no. 1 (2014)" | "no. 1 (2015)" | Туро |
| 25 | 46 | 88 "EC '22: Proceedings of the 2023 ACM Conference on Economics and | "EC '22: Proceedings of the 23rd ACM Conference on Economics and | Туро |
| | | Computation 2023" | Computation" | |
| 25 | 46 | 88 "no. 1 (2023)" | "no. 1 (2022)" | Туро |
| 25 | 46 | 90 "EC'22: Proceedings of the 2023 ACM Conference on Economics and | "EC '22: Proceedings of the 23rd ACM Conference on Economics and | Туро |
| | | Computation 2023" | Computation" | |
| 25 | 46 | 90 "no. 1 (2023)" | "no. 1 (2022)" | Туро |
| 26 | 46 | 90 "(2023): 1–35, at 6" | "(2023): 1–35, at 6 –7 " | Clarification |
| 26 | 46 | 91 "EC '22: Proceedings of the 2023 ACM Conference on Economics and | "EC '22: Proceedings of the 23rd ACM Conference on Economics and | Туро |
| | | Computation 2023" | Computation" | |
| 26 | 46 | 91 "no. 1 (2023)" | "no. 1 (2022)" | Туро |
| 26 | 47 | 93 "See Lee Report, Section II.C.3. and Section II.C.3., explaining" | "See Lee Report, Section II.C.3., explaining" | Туро |
| 28 | 51 | . "Google Ad Manager ("GAM"), which includes a publisher ad server, and | "Google Ad Manager ("GAM"), which includes a publisher ad server and | Туро |
| | | an ad exchange/SSP." | an ad exchange/SSP." | |
| 32 | 59 | 132 "β¹(x)" | "β'(x) " | Туро |
| 36 | 68 | 143 "("we use the market thickness to represent the average number of ads | "("we use the market thickness to represent the average number of ads | Correction |
| | | competing for user impressions on an online advertising platform.") | competing for user impressions on an online advertising platform.");" | |
| | | (emphasis in original);" | | |
| | | | | |
| 38 | 70 | 154 " 955 –1025" | " 965 –1025" | Туро |
| 38 | 70 | 157 " 955 –1025" | " 965 –1025" | Туро |
| | | | | |
| | | | | _ |
| | | | | |
| 56 | 93 | 225 "1849–1864, at 1850 " | "1849–1864, at 1851 " | Туро |
| 60 | 98 | 243 "209–218, at 217 " | "209–218, at 209 " | Correction |
| 60 | 98 | 244 "209–218, at 217 " | "209–218, at 216 " | Correction |
| 63 | 101 | 258 "24:8–26: 14 " | "24:8–26: 6 " | Clarification |
| | | | | |
| 64 | 102 | 261 "(Cambridge: MIT Press, 2021)" | "(Cambridge: MIT Press, 2020)" | Туро |
| 64 | 102 | 262 "(Cambridge: MIT Press, 2021)" | "(Cambridge: MIT Press, 2020)" | Туро |
| 64 | 102 | 263 "(Cambridge: MIT Press, 2021)" | "(Cambridge: MIT Press, 2020)" | Туро |
| 66 | 104 | 269 "and 189 –190 " | "and 189" | Clarification |

Expert Report of Gabriel Weintraub (December 22, 2023)--Errata

| Page | Paragraph | Footnote Original | Corrected | Reason |
|------|-----------|---|---|---------------|
| 68 | 109 | 279 "at 3933" | "at 3933 –3934 " | Clarification |
| 68 | 109 | 279 "(2017): 500–522." | "(2017): 500–522, at 500, 510 ." | Clarification |
| 70 | 112 | 284 " 23:6 –24:6" | " 24:1 –24:6" | Clarification |
| 70 | 112 | . "John Gentry of OpenX named personnel costs alongside infrastructure | "John Gentry of OpenX named personnel costs alongside infrastructure | Туро |
| | | costs, and real estate costs as costs that need to covered in order to have | costs and real estate costs as costs that need to be covered in order to | |
| | | the "ability to invest and grow the business."" | have the "ability to invest and grow the business."" | |
| 71 | 113 | 286 "(09/09/2023)" | No Date | Correction |
| 73 | 115 | 296 "247:17–248: 19 " | "247:17–248: 7 " | Clarification |
| 84 | 130 | 313 "based on the analysis in Professor Robin Lee's office." | "based on the analysis in the Lee Report." | Clarification |
| | | | | |
| 48 | | | | |
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| _ | _ | | | |
| 115 | 169 | 39 <u>6</u> "189:5–190: 18 " | "189:5–190: 3 " | Clarification |
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| | | | | |
| 146 | 220 | . "Recall that in first price auctions, it is optimal for bidders to reduce their | "Recall that in first price auctions, it is optimal for bidders to reduce their | Typo |
| 140 | 220 | bids (Section II.A.1)." | bids (Section II.C.1)." | туро |
| | | bias (Section II.A.1). | bids (Section ii.C.1). | |
| 152 | 220 | FF2 "Denosition of John Contro (OnenV) October 20 2022 24:45 24:22 ///0 | Cuitab with tout in footnate FF2 | Correction |
| 152 | 229 | 552 "Deposition of John Gentry (OpenX), October 26, 2023, 21:15–21:22 ("Q. | Switch with text in footnote 553. | Correction |
| | | How, if at all, did the decrease in spending by DV360 on OpenX affect | | |
| | | OpenX?THE WITNESS: It was a devastating impact to the company, | | |
| | | resulting in severe financial consequences. We had to execute a large | | |
| | | layoff in December of 2018 and had a lot of negative effects as a result of | | |
| | | that.")." | | |

Expert Report of Gabriel Weintraub (December 22, 2023)--Errata

| Page | Paragraph | Footnote Original | Corrected | Reason |
|------|-----------|---|---|---------------|
| 152 | 229 | "Deposition of John Gentry (OpenX), October 26, 2023, 22:17–23 ("Our revenues went from - we were about in 2017; 2018 we were about because the first half of the year was strong; in 2019, we were down to about; and in 2020, the combination of difficulties we had had plus COVID took us down to about in net revenue in 2020.")." | Switch with text in footnote 552. | Correction |
| 152 | 229 | . "The CEO of OpenX, John Gentry, testified that OpenX's revenues fell from in 2017 to 2019." | "The CEO of OpenX, John Gentry, testified that OpenX's revenues fell from in 2017 to 2019." | Туро |
| | | | | |
| | | | | |
| C-1 | 3.a.ii. | 3 "Letter from David R. Pearl to Kelly Garcia , September 8, 2023, 2." | "Letter from David Pearl to Michael Freeman , September 8, 2023, 2." | Correction |
| D-10 | 22 | 17 "Letter from Julie Elmer to John Hogan, August 19, 2022, 5–6 8 (" | "Letter from Julie Elmer to John Hogan, August 19, 2022, 5–6 (" | Туро |
| E-2 | 2 | . "exchanges' bids have the same variance that is characterized by the spread parameter" | "exchanges' bids have variance that is characterized by the same spread parameter" | Clarification |
| E-21 | 42 | 21 "Letter from David Pearl to Michael J. Freeman, July 28, 2023 (" | "Letter from David Pearl to Michael J. Freeman, July 28, 2023, 2 (" | Clarification |
| F-2 | 3 | 5 "John Rice, "11.2 Comparing Two Independent Samples", in Mathematical Statistics and Data Analysis, 3rd ed. (Duxbury: Thomson Brooks/Cole, 2007)." | "John Rice, "11.2 Comparing Two Independent Samples", in Mathematical Statistics and Data Analysis, 3rd ed. (Duxbury: Thomson Brooks/Cole, 2007), 421–444." | Clarification |
| F-5 | 11 | 12 ("Rule of Thumb[:] The basic formula is n=16/Δ^2 (2.3)."). | ("Rule of Thumb[:] The basic formula is n=16/ Δ^2 (2.3) where Δ =(μ_0 - μ_1)/ σ = δ / σ (2.4)."). | Clarification |
| F-5 | 11 | 12 N/2=16 (p_p (1-p_p))/(p_1-p_0) | N/2=16 (p_p (1-p_p))/(p_1-p_0)^2 | Correction |

January 13, 2024

Case 1:23-cv-00108-LMB-JFA Document 657-10 Filed 05/17/24 Page 20 of 20 PageID# HIGHLY CONFIDENTIAL - QUIDING TO PROTECTIVE ORDER

Expert Report of Gabriel Weintraub (December 22, 2023)--Supplemental Errata

| Page Paragraph | Footnote Original | Corrected | Reason |
|----------------|-------------------|-----------|--------|
| | | | |

February 23, 2024